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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/558,358

11/25/2005

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EXAMINER

COOLEY, CHARLES E

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

03/18/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/558,358	Applicant(s) NAKAMURA ET AL.	
	Examiner Charles E. Cooley	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 22-34, 36-40, 42-47 and 49 is/are rejected.
- 7) ☒ Claim(s) 35, 41 and 48 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 November 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20060322</u> . | 6) <input type="checkbox"/> Other: _____ |

NON-FINAL OFFICE ACTION

1. **This application has been assigned to Technology Center 1700, Art Unit 1797 and the following will apply for this application:**

Please direct all written correspondence with the correct application serial number for this application to **Art Unit 1797**.

Telephone inquiries regarding this application should be directed to the Electronic Business Center (EBC) at <http://www.uspto.gov/ebc/index.html> or 1-866-217-9197 or to the Examiner at (571) 272-1139. All official facsimiles should be transmitted to the centralized fax receiving number 571-273-8300.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. § 119, which papers have been placed of record in the file.

Information Disclosure Statement

3. Note the attached PTO-1449 form submitted with the Information Disclosure Statement filed 22 MAR 2006.

Specification

4. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Art Unit: 1797

5. The abstract is acceptable.
6. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed (MPEP 606.01).

Claim Rejections - 35 USC § 102

7. The terms used in this respect are given their broadest reasonable interpretation in their ordinary usage in context as they would be understood by one of ordinary skill in the art, in light of the written description in the specification, including the drawings, without reading into the claim any disclosed limitation or particular embodiment. See, e.g., *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004); *In re Hyatt*, 211 F.3d 1367, 1372 (Fed. Cir. 2000); *In re Morris*, 127 F.3d 1048, 1054-55 (Fed. Cir. 1997); *In re Zletz*, 893 F.2d 319, 321-22 (Fed. Cir. 1989).

The Examiner interprets claims as broadly as reasonable in view of the specification, but does not read limitations from the specification into a claim. *Elekta Instr. S.A.v.O.U.R. Sci. Int'l, Inc.*, 214 F.3d 1302, 1307 (Fed. Cir. 2000). "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. Inc. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987).

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

Art Unit: 1797

applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 22, 23, 25, 28, 29, 30, 31, 32, 33, 34, 36, 37, 40, 42, and 49 are rejected under 35 U.S.C. 102(e) as being anticipated by Shrader et al. (US 6,742,922 B2).

The patent to Shrader et al. discloses a method of mixing and a mixer 10 comprising a flattened and circular housing 52, 54 provided with an annular wall 56 on its periphery; a rotary disc 58 located in the housing to rotate in a predetermined rotational direction; a slurry outlet port 62 opening on said annular wall to discharge from the housing, gypsum slurry mixed in the housing; a hollow connector section 74 with an open end connected to said slurry outlet port and another open end connected to a substantially vertical and cylindrical slurry delivery conduit 66; and a foam feeding port 24 for feeding foam to the gypsum slurry, wherein said foam feeding port is provided on the annular wall on an upstream side of the slurry outlet port in the rotational direction so as to feed the foam to the gypsum slurry immediately before the gypsum slurry enters said slurry outlet port, or provided on said hollow connector section so as to feed the foam to the gypsum slurry flowing in the hollow connector section (col. 5, lines 2-6); wherein said slurry delivery conduit 66 is provided with its inside area having a circular transverse cross-section, and said hollow connector section is connected to the slurry delivery conduit in a position eccentric to a center axis of the slurry delivery conduit (Fig. 3); wherein said slurry outlet port causes the gypsum slurry to flow into said hollow connector section in a tangential direction with respect to said annular wall (col. 4, line 35 – col. 7, line 35); wherein said hollow connector section

Art Unit: 1797

74 has wall surfaces 76, 78 on sides upstream and downstream in the rotational direction, these wall surfaces forming a slurry passage in said hollow connector section, and said wall surface 76 on the upstream side is oriented at an angle ranging from 90° to 120° with respect to a normal line of said housing (Figs. 1 and 3); wherein said wall surfaces 76, 78 on the upstream and downstream sides are parallel with each other (Fig. 3); wherein said wall surface 78 on the downstream side is positioned at a sharp angle relative to a circumferential inside surface of said annular wall (Fig. 3); wherein said hollow connector section 74 is connected to said slurry delivery conduit so as to cause the gypsum slurry to flow thereinto in a tangential direction of said inside area (col. 4, line 35 – col. 7, line 35); wherein said hollow connector section 74 is connected to said slurry delivery conduit in a position eccentric to the center axis of the slurry delivery conduit 66; the recited method steps disclosed at (col. 4, line 35 – col. 7, line 35).

10. Claim 22 (equivalent to the referenced claim 1 in the report) is rejected under 35 U.S.C. 102(b) as being clearly anticipated by JP 8-25342 per the International Preliminary Report on Patentability (FORM 409) dated June 2005.

Claim Rejections - 35 USC § 103

11. To determine whether subject matter would have been obvious, "the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented."

Graham v. John Deere Co. of Kansas City, 383 U.S. 1, 17-18 (1966).

The Supreme Court has noted:

Often, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.

KSR Int'l Co. v. Teleflex Inc., 127 S.Ct. 1727, 1740-41 (2007). "Under the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed." (Id. at 1742).

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1797

13. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

14. **Claims 24, 26, 27, 38, 39, 43, 44, 45, 46, and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shrader et al. (US 6,742,922 B2) in view of WO 99/67074.**

Shrader et al. discloses the recited subject matter substantially as claimed as noted above but does not disclose the blades and slits in the outlet port. WO 99/67074 discloses a gypsum mixer 10 with a slurry outlet port proximate 35 wherein the port has either horizontal or vertical blades 31 with slits 32 therebetween (Fig. 3). It would have been obvious to one having ordinary skill in the art, at the time applicant's invention was made, to have provided the slurry outlet port of Shrader et al. with blades and slits as taught by WO '074 for the purposes of preventing the discharge from the mixer of large and solids lumps of gypsum material that may cause base paper running-out (per the abstract).

15. Claims 24, 26, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 8-25342 in view of WO 99/67074.

JP 8-25342 discloses the recited subject matter substantially as claimed as noted in the report (Form 409) referenced above but does not disclose the blades and slits in the outlet port. WO 99/67074 discloses a gypsum mixer 10 with a slurry outlet port proximate 35 wherein the port has either horizontal or vertical blades 31 with slits 32 therebetween (Fig. 3). It would have been obvious to one having ordinary skill in the art, at the time applicant's invention was made, to have provided the slurry outlet port of JP '342 with blades and slits as taught by WO '074 for the purposes of preventing the discharge from the mixer of large and solids lumps of gypsum material that may cause base paper running-out (per the abstract).

16. Claims 22, 23, 25, 28, 29, 30, 31, 32, 33, 34, 36, 37, 40, 42, and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shrader et al. (US 6,742,922 B2 in view of Bahner et al. (US 6,402,359 B2).

Shrader et al. discloses the recited subject matter substantially as claimed as noted above but does not disclose the alternative of claim 22 wherein the foam port is disposed on the annular wall of the housing. The patent to Bahner et al. discloses a gypsum slurry mixer having a rotatable disk 15 in a housing 17, multiple slurry outlet ports 21 disposed around the housing, and a port 28 for introducing a gaseous material into the mixer and the mixture of slurry wherein the port is disposed on the annular wall of the housing upstream of at least one of the slurry ports. It would have been obvious

Art Unit: 1797

and mere common sense to one having ordinary skill in the art, at the time applicant's invention was made, to have provided the mixer of Shrader et al. with an introduction port disposed on the annular wall of the housing as taught by Bahner et al. for the purposes of ensuring a high degree of homogeneity of the injected gaseous material in the slurry mixture and to ensure a homogenous pore formation in the mixture (col. 2, line 20-37; col. 3, lines 6-36; col. 4, lines 12-22).

Allowable Subject Matter

17. Claims 35, 41, and 48 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles E. Cooley in Art Unit 1797 whose telephone number is (571) 272-1139. The examiner can normally be reached on Mon-Fri.. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1797

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Charles E. Cooley/

Charles E. Cooley
Primary Examiner
Art Unit 1797

19 March 2009